



## **New Technology can Power Whole Cities with Hydrogen**

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**Stockton, CA:** A new, and disarmingly simple, technology aims to fulfill the promise of hydrogen energy: the SOG process is designed to power whole cities with clean, cost effective, and endlessly renewable hydrogen.

The SOG Research and Development Corporation revealed its new hydrogen process on August 23 at the Renewable Energy Roundtable attended by Congressman Richard Pombo and Secretary of Commerce Carlos M. Gutierrez.

Hydrogen technology has been around since the 1960s. Many experts believe it will be the world's main energy source by the year 2050. In fact, several leading car manufacturers have built prototype cars that run on hydrogen fuel cells. But, until now, no one has found a way to burn hydrogen cleanly, and cost-effectively, on a mass scale.

The sticking point has been the cost of only using the hydrogen from electrolysis—the process of separating hydrogen and oxygen out of water. The SOG process uses both the hydrogen and oxygen for combustion in an enclosed vessel. No air emissions are released into the atmosphere.

What makes SOG so different is that it uses clean energy sources to perform electrolysis. SOG uses wind, solar, and wave technology to power the electrolysis process. Then it takes the separated hydrogen and oxygen and ignites the gases in an enclosed vessel thus generating heat and water. The heat is used to generate steam and to turn turbines in order to generate electricity.

The technology is scalable. It can be applied to power plants for entire cities, or it can be scaled down to run an automobile.

SOG inventors and partners, Ed Stockton, Bob Olson and Carl Glasgow say that SOG doesn't create any of the air pollution or the greenhouse gases that you get with burning fossil fuels which are depleting a lot faster than anybody originally expected. And SOG doesn't present the kind of dangers that nuclear power has. "A hydrogen plant isn't going to cause a Chernobyl or a Three Mile Island catastrophe," Mr. Stockton points out.

SOG gets its power from clean energy sources—solar, wave, and wind—to separate out hydrogen and oxygen from water. Then it stores the excess harvested hydrogen and oxygen so it can use these elements to continue to generate power whenever the wind isn't blowing or the sun isn't shining.

The SOG inventors also point out that hydrogen can be transported anywhere, anytime without creating an environmental hazard. If it leaks or spills out of the container, hydrogen does not harm the environment like oil, coal or even natural gas.



The SOG group says their technology could turn the existing energy paradigm on its head. They propose that farmers, ranchers, and other property owners could add energy to their portfolio of crops. By placing solar panels or windmills on their land, they can harvest the energy and sell it to power plants for use in hydrogen/oxygen electrolysis.

According to Mr. Stockton, "We're talking about running whole cities on an endlessly renewable resource—hydrogen. Hydrogen is the most abundant element in the universe. We won't run out of it."

SOG founders Ed Stockton, Robert Olson, and Carl Glasgow are now disseminating information about their technology to the academic community, industry leaders, and government agencies. Once the word on SOG is out, they plan to raise funds so they can promote SOG technology. They anticipate SOG will be readily adopted both nationally and worldwide.

Their prediction could well come true. Fossil fuel sources are dwindling, prices are increasing dramatically, and nations are already beginning to show signs of conflict over the reserves.

Plus, the SOG model makes hydrogen financially feasible. At present, power plants spend roughly 33% of their construction costs on the equipment for scrubbing flue gas emissions and trying to recover lost heat through their smoke stacks. With SOG, there simply are no air emissions, no smoke stacks, and no lost heat. Adding to the costs of burning fossil fuels, a new CO<sub>2</sub> tax is on the horizon. Once you factor in the rising costs of fossil fuels, all these conditions add up to making the initial costs of building or retrofitting power plants to SOG look negligible.

Mr. Stockton notes that, "In the future the cost of hydrogen will lessen as production rates increase and technologies for separation improve."

The SOG team sees their technology as a way to eliminate much of the conflict in the world today as it makes energy inexpensive and universally accessible. Not all countries have fossil fuels or nuclear technology but all countries have at least one or more of the following: wind, solar, hydro or ocean movement that they can harness. Studies have shown that the health and wealth of a culture is directly proportional to its ability to generate electricity. So SOG could help to stave off poverty, famine, and epidemics as well as pollution and military conflict throughout the world.

To learn more about SOG or to support their effort, visit their website at [www.sograndd.com](http://www.sograndd.com).

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